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Federal Communications Commission
Office of Secretary

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of 1998 Biennial Regulatory Review -- Amendment of Part 18 of the Commission's Rules to Update Regulations for RF Lighting Devices	)	ET Docket No. 98-42

REPLY COMMENTS OF
THE NATIONAL ASSOCIATION OF BROADCASTERS

I. INTRODUCTION AND SUMMARY.

Here the National Association of Broadcasters ("NAB")[1] files its reply to many of the parties submitting initial comments in the above-captioned proceeding. This proceeding, instituted by the Commission's *Notice of Proposed Rule Making,*[2] considers proposed revisions to the FCC Part 18 rules applicable to the operation of radiofrequency lighting devices.

In our initial comments[3] we observed how the Commission, for some time, has employed a two-tiered system for regulating the emissions from low power, non-licensed radio frequency devices, such as "RF light bulbs." Under this system, devices marketed for use in residential environments are subject to somewhat more stringent radio frequency emission limits than are

[1] NAB is a nonprofit, incorporated association of television and radio stations and broadcast networks which serves and represents the American broadcast industry.
[2] *Notice of Proposed Rule Making* in ET Docket No. 98-42, FCC 98-53 (*"Notice"*), released April 9, 1998.
[3] *See* Comments of NAB in ET Docket No. 98-42 ("NAB Comments"), filed July 8, 1998.

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devices marketed for use in non-residential environments. The NAB Comments urged the Commission to adopt a single standard for RF light bulb operation. Here we underscore that request, vis-à-vis the operation of RF light bulbs on frequencies that might cause interference to AM radio or to other licensed, local broadcast or auxiliary broadcast services.

The Commission now is re-addressing this and other issues in the instant proceeding. Similar issues also are being examined in a related inquiry proceeding.[4] This inquiry was addressed in our initial comments in this instant rule making. Also, and at NAB's request,[5] the Commission has extended the deadline for the filing of comments in that inquiry proceeding.[6] NAB sought that additional time to allow the completion and analysis of an NAB-commissioned study that is addressing the larger but related interference issues raised in the inquiry. Again, we urge the Commission to take coordinated action in these proceedings that will yield interference standards that effectively will protect the service of AM radio and other local broadcast services.

II. THE CONDUCTED EMISSION LIMITS FOR NON-CONSUMER DEVICES SHOULD NOT BE INCREASED IN AM RADIO AND OTHER BROADCAST BANDS.

In its comments, ADTRAN observes that conducted emissions from multiple Part 18 devices can combine to create harmonic signals in parts of the radio spectrum where harmful interference will be caused to licensed services.[7] Furthermore, ADTRAN provides documentation that illustrates the fact that commercial establishments generally are kept brighter than other buildings.[8] The information provided by ADTRAN confirms the assertion made in

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[4] *See Notice of Inquiry* in ET Docket No. 98-80, ____FCC Rcd____(1998).
[5] NAB Motion for Extension of Time of Comment and Reply Comment Deadlines in ET Docket No. 98-80, filed July 17, 1998.
[6] *Order Granting Extension of Time*, released July 28, 1998.
[7] Comments of ADTRAN in ET Docket No. 98-42, filed July 8, 1998, at 2.
[8] *Id.* at appendix.

our own comments[9] that the generally greater use of lighting in non-residential buildings requires the Commission to *reduce* the conducted emission limits for Part 18 RF lighting devices in these locations, not increase them.

The National Electrical Manufacturers Association ("NEMA") asserts that a relaxation of the non-consumer conducted emission limit would be appropriate because "non-microwave RF lighting devices now number in the many millions in the field and have not been a source of interference."[10] NEMA does not explain why it believes that RF lighting devices have not been a source of interference. Presumably, it bases this claim on not having received numerous complaints from people who have experienced interference.

A minimal number of consumer complaints constitutes woefully inadequate evidence upon which to base any conclusion that RF lighting devices do not cause interference. With regard to the AM broadcast band, in particular, it is very uncommon for a listener to complain to an RF lighting manufacturer when interference occurs. Because there are natural phenomena that produce interference to AM radio (*e.g.* lightning), and some common unnatural phenomena (*e.g.* electric power lines) AM radio listeners have, unfortunately, become very accustomed to hearing periodic interference. Many such listeners simply attribute the interference they hear from RF lighting devices to the same phenomenon that causes interference when they pass under a high voltage power line while listening to a car radio. As a result, they accept it as a "fact of life."

A 1988 study prepared by B. Angell & Associates, Inc. for NAB confirmed that the most common listener response to AM radio interference is to change stations. This study reported that, when interference problems are experienced, 57% of listeners react by simply changing

[9] NAB Comments at 4.
[10] Comments of NEMA in ET Docket No. 98-42, filed July 6, 1998, at 4.

stations.[11] This study did not determine the types of stations these listeners switched to (*i.e.* AM or FM) when experiencing interference on an AM station. Theoretically, some listeners might try to find another AM station experiencing less interference (due to, for example, a stronger station signal). Other listeners who experience interference while listening to AM radio simply may switch to an FM station or even turn off the radio. In this respect, interference caused by RF lighting devices is particularly harmful to the AM broadcasting service, though the severity of such interference may be dependent on several factors, such as the frequencies involved and station vs. light bulb signal strength.

The proliferation of consumer electronic equipment and electrical appliances which cause interference to AM radio has had a very negative impact on the AM service. The percentage of radio listeners who listen to AM radio has decreased by over 50 percent in the past 15 years.[12] One of the significant reasons for this decline has been increased interference to AM receivers. The Commission must stem the tide of RF pollution that is contaminating the AM broadcast band by rejecting any proposals, like the ones in this proceeding, that would increase the amount of noise in the AM band.

III. IF RF LIGHTING DEVICES ARE NOT SAFE FOR USE ABOARD SHIPS, THEN THEY MAY NOT BE SAFE FOR USE IN CERTAIN LAND-BASED ENVIRONMENTS.

The United States Coast Guard recognizes the ability of RF lighting devices to cause interference to AM radio and to other communications services in the 0.45-30 MHz band. It asks the Commission to require a warning label on all RF lighting devices should the Commission relax the conducted emission limits for these devices. The Coast Guard wants this label to say,

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[11] B. Angell & Associates, Inc., *AM Radio Interference Study, Final Report*, June, 1988, page 27.
[12] BIA Research, Inc., *State of the Radio Industry 1998*, April 1998, page 20.

"this device should not be installed in a shipboard environment."[13] Of course, if RF lighting devices operating under the proposed, relaxed rules would cause interference to communications systems in the 0.45-30 MHz band on board ships, then they would also cause interference to communications systems in this band in other geographic locations. Therefore, these devices should not only be kept off of ships, but restricted from use in other locations as well if they would cause such interference to licensed communications systems operating on the frequencies affected by these lighting devices.

IV. EXISTING PART 15 AND PART 18 DEVICES MUST NOT BE AFFORDED INTERFERENCE PROTECTION

Several commenters argue that the Commission should restrict the operations of Part 18 RF lighting devices in order to protect the operations of already-existing Part 15 devices operating in the same band.[14] While we agree that the emissions from RF lighting devices must be restricted, we emphasize here that they must be restricted in order to protect *licensed* radio services. As many commenters acknowledge, Part 15 devices are allowed to operate under the conditions that they do not cause any harmful interference, and that they accept any interference that they receive.[15] Similar restrictions apply to Part 18 devices with respect to interference that they may cause to licensed radio services.[16]

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[13] Comments of the U.S. Coast Guard in ET Docket No. 98-42, filed June 24, 1998, at 1.
[14] Comments of Symbol Technologies in ET Docket No. 98-42, filed July 8, 1998, at 1; Comments of 3COM Corporation in ET Docket No. 98-42, filed July 8, 1998, at 1; Comments of Metricom in ET Docket No. 98-42, filed July 6, 1998, at page 5, Comments of Aironet in ET Docket No. 98-42, filed July 9, 1998, at 1; Comments of Wireless LAN Alliance in ET Docket No. 98-42, filed July 8, 1998, at 3; Comments of Part 15 Coalition in ET Docket No. 98-42, filed July 8, 1998, at 2.
[15] 47 C.F.R. § 15.5.
[16] 47 C.F.R. § 18.111.

Several commenters cite a 1995 Commission decision[17] where the Commission, in essence, suspended the requirement that a limited class of Part 15 devices not cause interference to licensed services for the specific case of Part 15 devices operating in the 902-928 MHz band.[18] In our view, this decision, however limited in its scope, set a dangerous precedent. The Commission now has an opportunity in the instant proceeding and the related inquiry proceeding to set the record straight concerning the sufferance status of Part 15 and Part 18 equipment.

More recently, and along the same lines as the 1995 decision mentioned above, the Commission turned the Part 15 rules upside down. This was where the agency asked *licensed* television broadcasters to coordinate their transition to digital television transmissions with local hospitals that might be using *non-licensed* medical telemetry equipment designed to operate under Part 15.[19]

Television broadcasters are fully committed to working with local hospitals to ensure that medical telemetry operations are not disrupted. However, we must emphasize here that, although the Commission has asked television broadcasters to work with local hospitals on this issue, it has not provided *any* interference protection to Part 15 medical telemetry operations. Non-licensed hospital telemetry operations are required to accept any interference they receive from television broadcast signals. Where interference to these medical telemetry operations has occurred, hospitals have made arrangements to modify their telemetry systems in order to avoid interference.

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[17] *Report and Order* in PR Docket No. 93-61, 10 FCC Rcd 4695 (1995).
[18] Comments of Symbol Technologies, *supra* note 13, at 3; Comments of 3COM, *supra* note 13, at 4; and Comments of Metricom, *supra* note 13, at ¶ 8.
[19] *See* "Joint Statement of the Federal Communications Commission and the Food and Drug Administration Regarding Avoidance of Interference Between Digital Television and Medical Telemetry Devices," March 25, 1998

Parts 15 and 18 allow people to operate low-power radio frequency devices without a license *provided* that they are willing to accept any interference they might receive. This includes interference from other Part 15 and Part 18 devices. The suggestions of several commenters in this proceeding that incumbent low-power, non-licensed devices should be afforded some sort of protection from newcomer devices must be rejected.

V. ELIMINATION OF THE LESS PROTECTIVE NON-RESIDENTIAL EMISSION LIMITS IS WARRANTED

In his comments, Donald L. Sweeney reports that he has seen RF ballasts designed for commercial appliances sold in home improvement stores.[20] This reinforces the point we made in our comments that there is no way for the Commission to ensure that devices designed to meet the non-residential emission limits do not end up in use in residential environments. It is for this reason that we believe the relaxed emission limits for non-residential environments should be removed from both the Part 15 and Part 18 rules. A single, "consumer" limit should be applied across the board to all RF lighting devices, and to all other Part 15 and Part 18 devices as well, insofar as the limit provides interference protection to AM radio and to other licensed local broadcast or auxiliary broadcast services. Once the results of the study NAB is conducting for the record in ET Docket No. 98-80 are available, we will be in a better position to recommend what this single conducted emission limit should be.

[20] Comments of Donald L. Sweeney in ET Docket No. 98-42, filed July 7, 1998, at 2.

VI. CONCLUSION

For the reasons stated herein and in our initial comments in this proceeding, NAB urges the Commission to adopt a regulatory scheme for RF lighting devices that will provide needed interference protection for AM radio and other local broadcast operations. These interference protection standards should be applicable and effective regardless of the environment in which these RF lighting devices are placed in operation.

Respectfully submitted,

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